

**Cognition and Student Learning Research Grant Program**  
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**Nuts and Bolts of the Application Process**

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Dr. Mullen: What I'd like to start by doing is going over the agenda briefly with you. You should all have a copy of the agenda in your folder. The first part of the meeting will be focused on the application process itself. It will provide some guidelines for writing a strong application and lead you through all the different pieces and steps of the application process. And, I'd also like to introduce you to the E-application process, which may be new to most of you. At the end of that section, we'll have some time for questions, specifically about writing applications and questions along that line.

Following that part of the presentation, Dr. Reyna will speak again, this time more broadly on new directions in educational science. Following her talk, we'll have a short break. We have plenty of coffee and cookies over there, should you be in need of refreshment, either at the break or anytime during the meeting. Then, following the break, we have an invited speaker today, Dr. Robert Bjork, who will be speaking on some of the challenges and opportunities of bringing cognitive science and neuroscience to bear on educationally significant research issues. Following his talk, we'll again have 30 minutes at the end for a general question and answer session.

Before we get started, I want to draw your attention to the contact information sheet in your packet. Please fill that out before you leave today and place it in this little

box on the corner of the table in the front of the room. I've left room at the bottom of the sheet to write in additional questions. Hopefully, you'll have the chance to have all your questions answered. But, if, at the end of the day, you have a few that we haven't had time to get to, please write them in and we will return those questions by phone or E-mail.

I'm going to start again by going over the nuts and bolts of putting together an application and take apart the announcement, the Federal Register Notice, and give you some guidance on putting together an application.

I've organized this part of the talk around questions I've received already from prospective applicants. I want to let you know up front that we have a very broad range of people that are interested in this competition. We have some people that have a long-range of experience writing grants and running large scale research projects, and we have other people that are very new to the process. They may be writing an application for the first time. What I've tried to do is to plan a talk that gives information to people at all those different levels. I'm sure some of what I'll cover will be old hat to some of you, and you'll wonder why I'm covering what may seem obvious. But, please remember that to other people in the audience, this may be the first time they're receiving that information.

Now, the handout on the right side of your folder will cover basically what I'm going over in my talk. And, I also want to let you know that I've asked four of my colleagues to be here today. They're seated over here on the right hand side of the room. We have Beth Fine, Ron Cartwright, Elizabeth Payer, and Pat Knight. I've asked them to come to help answer some of the more technical questions about government regulations

that I have less experience with and that can often be very complicated and counter-intuitive.

So, the first page in your handout, page three, is a list of the helpful Web sites. And, the first one is the Federal Register Notice, which probably all of you have already seen by now. The next two are sites where you can download paper copies of the application and you can download that in either PDF or Word format. The next site is where you'll be able to access the notes of this meeting. We are going to transcribe the meeting and we have note takers here. So that if you miss anything, or if there are other people in your team that want to see what was covered, they'll be able to get that information. We have the site for the E-application page, which I'll go into more later. And, then there are two reference sites at the end. The first one gives you answers to more commonly asked questions about the grant process. The second one provides more detailed technical information about specific regulations. So, should you have questions about having a contract or a subcontract or overhead costs, that's where you would go for those kinds of answers.

Some of you have asked me already questions about the timeline. As you know, the deadline for the application is April 15th. We are hoping to make announcements of the grant sometime in June. We don't have a firm date yet and as that shapes up, I will be able to give you a more exact date.

So, the next page of your handout lists the application checklist. This is a very useful page. It has all the different pieces of the application that you'll need to include and all the forms. The forms listed on the bottom in blue are the seven required forms that you will need to submit with each application. Now, if you do this process online, I

want to let you know it will be easier, because it's all mechanical. You cannot submit your application until you have all those forms completed. Yet one more reason why filing online makes sense.

Now, I want to go over a little bit the format of the application. Again, this is in the application itself and the Federal Register Notice. It is limited to 25 pages, 25 double spaced pages, which is not a lot of room to describe some of the projects I know that you're contemplating. So, you'll want to assume, first off, the expertise of the reviewers. You won't need to spend too much time giving the background or the context. But, you can really jump right in to the more substantive issues. It does need to be double spaced with 12 point or larger font and 1 inch margins. And, I do want to warn you that if those specifications are not followed, the reviewers may not be able to see all of your application. If you single space, for example, the reviewers will only get the first 12 \_ pages, to make sure that everyone has an equal chance of presenting their information to the reviewers.

I might mention, too, that it's very helpful to use subheadings when you're writing applications, to guide the reviewers through. It will help you, too, in terms of organizing the structure of your application.

The next piece I want to talk about is the abstract. Now, the abstract is a very important piece and I would urge you not to wait until the last minute to write that. It's what gives the reviewers the very first impression of your application and gives them the overview of where you're going. So, the more clear and compelling you can be writing the abstract, the more favorable the reviewers will start off in reading your application. There are several pieces that we would recommend you include in your abstract, and that

would be the theoretical and conceptual background of the study, the specific goals of the study, your research issues, hypotheses, and questions, and your study design. Again, the abstract is brief, but you can be as specific as possible describing your study design and your analysis methods. And, finally, the significance and implications of the work.

Now, the research narrative itself. This is the 25 page part of your application. This will be an extension and elaboration of all the points that you covered in your abstract. So, you'll be providing more detailed information on each of those areas you mentioned already. I would strongly urge you to review very carefully the review criteria that, again, are listed in the Federal Register Notice and the application, because these are what the reviewers will use to evaluate your application. There are four of these. And, they're weighted differently so you can see, perhaps, where you want to focus your efforts most strongly. The national significance, quality of the project design, quality and potential contributions of personnel, and adequacy of resources.

Now, in terms of the national significance, you'll probably be addressing most of that in your literature review and the introduction of your narrative. You'll want to cover the severity and the magnitude of the problem. And, the feasibility of the proposed solutions to that problem.

And, there are, perhaps two ways to think about significance. We can think about scientific significance, which would be the advancement of fundamental knowledge on the topic. But, also the applied significance, which would be the advancement of solutions to real world problems. How this research will end up helping. You should write that in a way that will be very apparent to the reviewers when they're reviewing your application.

Of course, you'll have a literature review, which will cover the main literature and empirical findings in your area. And, not just describe that, but relate specifically how it ties into your study and to your key research questions. Whether you're going to be building on certain aspects of that literature or filling in a gap in a particular place that has not yet been covered.

Now, the quality of the research of the project design is rated .5, so you can see that's the most heavily weighted piece of the application, and that will be the most important in terms of the way the reviewers are reading it. You must indicate in your proposal which methodological approach you are going to use. We've listed five here. In your proposal, you must state which of these you'll be using. I would also urge you to be as specific as possible in your research design. Sometimes people can make a mistake in writing out very strong research questions and great ideas for their proposals, but then not really give the reviewers a good idea of how they'll be able to carry it out. What's their design, what's their method. And, is that method the best design to answer the research questions they've posed.

So, when you describe these aspects, if you're going to have a sample, tell the reviewers how many people will be in your sample, how many people will be in your control group, how you'll control for attrition in those groups. If you're going to use a survey instrument, which one? Has it been tested? Can you include that in the appendix? And, there should be an explicit rationale provided for each study or experiment that you'll have.

And, then, not only the methods, but you'll want to be specific about how you'll analyze the data once you've collected it. What statistical techniques you may be using.

Another important element of your proposal will be the quality of the personnel. This will be conveyed perhaps most strongly in the CV's, which are attached to the application. You might want to think about writing the CV's in a way that best highlights the accomplishments that relate to the proposal that you're submitting, so that the reviewers will know, when they're reading it, they can see which publications or research grants may be more closely tied to the project you're proposing. It can also be helpful to have a narrative that will explain the different contributions. If there's more than one researcher, how they'll be working together, which pieces will be covered by which researcher. You might consider including a timeline that gives the reviewers a sense of when different parts of the project will get done.

Adequacy of resources was another one of the criteria. The reviewers will be looking at a couple of things for that. They will be looking at your budget to make sure that you've allocated enough time and funds. And, if you're going to have incentives, for example, they'll want to check and make sure that you actually have that listed as a budget item. That's another part that's very worthwhile spending time on.

There are two pieces to the budget. There's the budget itself, which lists just the numbers, and then the budget narrative, which explains the budget and gives the rationale for each piece of the budget. You're going to want to make sure that for each item, you have reasons to include that. So, if you have travel listed in your budget, then the budget narrative should specify what the travel's for. If there's a conference, which

conference, what you anticipate presenting at the conference, or other reason for going to that conference. And, this may seem obvious, but again it's very helpful to check your math on your budget, because we have seen a lot of mistakes.

Now, the appendix. I want to stress that it's best to avoid putting any essential pieces of the application into the appendix, because the reviewers will be evaluating the research narrative itself. The appendix can support that, but anything that's essential, like the research design, should not be left to the appendix, but should be right in the research narrative.

You can also include letters of support from other people that are working on the project. If you're going to conduct research with different institutions, you can include, for example, letters from those institutions showing their support and their agreement that they will work with you on the project. The CV's of the personnel, if you're going to use a survey instrument, here would be the place to attach that, so the reviewers can see exactly what that looks like.

I think that covers, briefly, the pieces of the application. I'd like to give you a couple of last pieces of advice on that. The first one, which, again, will sound very obvious, but I would highly recommend, is to read the Federal Register Notice several times very carefully, because we did spend a lot of time trying to make sure the information in that is as detailed and specific as possible. So, if it's in the Federal Register Notice, it is something that we want to see included in the application.

And, my second piece of advice is that it could be very helpful to have your application reviewed by other senior scholars in the field or especially people that have been successful grantees in the past, either at your university or if you're at another



organization or institution, perhaps a nearby university. If you can finish your application, a draft of your application, a month in advance, and have it reviewed, it will be very helpful to use those comments to revise your application.

Finally, I'd like to mention, in terms of human subjects, this is another piece that can sometimes slow down applications. If you need to get institutional approval, you'll want to start that process as soon as possible, going through your institutional review board. Because, as most of you know, you cannot start your data collection until you have institutional approval. So, I would get the wheels going on that sooner rather than later.

That covers, basically, the pieces of the application. And, now, I'd like to take you on a little tour of the E-application system. It's relatively new here at the Department, but it's been used very successfully by other applicants, and we would strongly recommend that you use it. There are several reasons why that's a good idea. One of the first is that it's the most environmentally friendly alternative. You'll save scads of paper by filing your application online. But, it's also actually more user-friendly, because the system will let you know that you have all the forms, it will let you know that you have all the pieces. It won't let you submit it until all of those pieces have been completed. Secondly, it will let you know when your application has successfully been received. You won't have to worry about the mail, which is especially a concern these days coming into Washington. As soon as you click on the button to have it submitted, it will send you a notification that it has been received. And, for each step of the E-application process, there's a lot of information available. So, it helps to guide you through the process much more so than the paper version of the application. Another

advantage is that you don't have to do it all at once. You can work on pieces of it. You can also have other people on your team, if you're working with other researchers, do different pieces of it. One person could do just the abstract, one person could do all the forms. You can break it up a little bit.

So, to get started with the application, you go to the Web site that I listed in the front, <http://e-grants.ed.gov>. And, you'll see this page here. The only thing you need to remember is to click on the first tab that says "E-application." Up there at the top left hand side.

When you do that, you'll come up with this page (<http://e-grants.ed.gov/e-app/eaHome.asp>), the welcome page. The first thing you're going to need to do is sign in. You'll see this box over on the right hand side. There's a button there that says, "if you are a new user click register." It will have you fill out a few basic questions. Then it will E-mail you a password, to your personal E-mail account, that you can use from then on to get into the system.

I'd also like to draw your attention to the tab on the left called Demo, which is a very nice feature of this program. If you click on that, it will take you on a little walk through the different steps of the process and kind of give you a trial run. It's a nice way to introduce yourself to the system before you start actually trying to upload your files and that kind of thing.

So, when you click on the registration, you will see this page (<https://e-grants.ed.gov/Secured/egUserProfile.asp?APP=EA>). You'll just answer those simple questions. After you do that, you'll come to a page that lists all the applications that are available. The list is going to be like this, but much longer. There are maybe 30

applications on the page at this point. You'll want to just scroll down the list until you find the one for the Cognition and Student Learning Program.

When you come to that one, of course, you will just click on that. And, that will bring that application into your file, so to speak. So that from then on, whenever you log into the system, it will have a list of the applications you're working on. This person is working on these three, for example. If you're working on another Department of Ed. application, it will have that one as well as the Cognition and Student Learning. Or, if Cognition and Student Learning is the only one, you'll just see one line there with your application.

Now, when you click on that application, one of the really nice features is that it will give you a list of all the different pieces of the application. They don't quite all fit on one page, but this is the beginning of the list and this is the rest of it. You can see that it has the face sheet, the different forms, the abstract, the project narrative, the references or bibliography under the literature cited, the CV's, the appendix, and the budget narrative. Again, all the pieces that you need are right there. And, as you complete them, it will check them off for you, so you'll be able to see online which ones are done and which ones are still remaining to be done.

Now, when you get ready to do one of the pieces, for example, if you're ready to do the abstract, you click on the one that said abstract. And, what it does, it just uploads the file, either from your hard drive or computer disk. The file must be in Word format or rtf, rich text format. So, you can actually edit your entire application in that format. When you're ready to upload it, you'll just click on that button. It will upload the file right into that part of the system and save it as part of your application.

Now, another very useful feature of the online application system is that they have a very good support system. There's a help desk that's staffed 8 to 6, Monday through Friday. You can either phone in and they're very good about being there and answering your questions. You can also E-mail them and they'll get right back to you. There's also a quick start user guide on the Web page, as well as something called Nine Steps to Prepare an Application, which, again, will give you pointers about each of the different sections of the application. And, there are links in that Web page to all the other relevant sites that you may need while you're preparing your application.

So, I think that's it on my presentation for the online application. Again, I would strongly encourage you to give it a try, especially if you're new to the grant writing process. I think it will really facilitate that for you and make it easier as it does provide more direction as you go along on each piece.

Now, I'd like to take some questions at this point. We'd like to have everyone speak into the microphones as they're asking their questions, because we are taping the meeting. These two microphones here are hand held so you can just pass them around. The one on this side of the room is a stable microphone so you will need to walk up to it and just speak into the microphone. Does anyone have any questions?